

CLAIMS

1. A filter device, comprising:
 - a reference signal generating source that generates a reference signal;
 - 5 a frequency divider that divides the reference signal so as to output a divided signal;
 - a reference filter that receives the divided signal as an input signal;
 - a phase difference detector that receives an output signal of the reference filter and the divided signal from the frequency divider as input signals
 - 10 and outputs a signal having a duty ratio corresponding to a phase difference generated by the reference filter;
 - a counter that receives the signal outputted by the phase difference detector and the reference signal as input signals and counts the duty ratio corresponding to the phase difference generated by the reference filter;
 - 15 a decoder that decodes a control signal for correcting variations based on an output signal of the counter;
 - a register that holds the control signal outputted from the decoder and outputs the control signal; and
 - a main filter that performs signal processing of selecting a cut-off
 - 20 frequency according to the control signal outputted from the register.